

PRELIMINARY OWNER/OPERATOR'S MANUAL

GAPLUS

PRELIMINARY

Bally

MIDWAY MFG. CO.

10601 W Belmont Avenue
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U.S.A.



Phone: (312) 451-9200 Cable Address: MIDCO Telex No.: 72-1596

PRELIMINARY INSTRUCTIONS

FOR
CAPLUS

INSTALLATION

1. Unlock and open the coin box door.
2. Remove four (4) "CABINET LEVELING LEGS" from inside the coin box.
3. Tip the cabinet to the side and remove the shipping cleats from its bottom.
 - ° Locate the threaded holes - one in each corner - and install the "CABINET LEVELING LEGS" in them.
 - ° Level the cabinet.
 - ° When finished, the cabinet should be stable in the upright position.
4. Close and lock the rear access door and plug the game into a **standard A.C. wall outlet ONLY.**

-----**WARNING**-----
Game **MUST** be
properly grounded.

LINE VOLTAGE SAFETY INTERLOCK SWITCHES

Line voltage SAFETY INTERLOCK SWITCHES have been provided for your protection. The locations of these SAFETY INTERLOCK SWITCHES are:

1. UPRIGHT MODEL: Inside the rear of the cabinet at the side of the rear access door.

When the cabinet access door(s) are secured in place, the SAFETY INTERLOCK SWITCH plunger(s) are in a fully depressed condition. The game circuit can function normally.

When any cabinet access door(s) are opened, the SAFETY INTERLOCK SWITCH plunger(s) are in a partially extended condition. This isolates the game circuit from the line voltage.

To restore power to the game circuit with the access door(s) open, gently pull the SAFETY INTERLOCK SWITCH plunger(s) out to the fully extended condition. **THIS IS TO BE USED FOR SERVICING THE GAME ONLY!**

SELF-TEST

A slide switch is provided to make the game run a "Self-Test" on itself. The SELF-TEST SWITCH is located on a mounting bracket just inside the coin door opening.

When in the Self-Test mode, the monitor screen will display the results of certain test functions it has run on itself.

TO SERVICE THE CONTROL PANEL

1. UPRIGHT MODEL:

- ° The control panel is held in place by three latches, one on the left side, one on the right side, and one in the center of the front of the cabinet.

They are spring loaded to provide constant positive pressure on their latch plates.

They can be reached through the coin door AFTER turning power to the game off.

To release the latches, lift up and toward the center of the control panel.

Once they are released, unhook them from their latch plates.

- ° To remove the control panel:

Cradling the control panel between yourself and the cabinet, disconnect it from its cabling and any miscellaneous hardware.

The control panel is now free and can be removed.

- ° To reinstall the control panel, reverse this procedure.

REMOVAL OF THE MAIN-DISPLAY-GLASS AND/OR THE T.V. BEZEL ASSEMBLY

1. UPRIGHT MODEL:

NOTE: In order to do this, the control panel **MUST** be removed first. See the "UPRIGHT MODEL" procedure.

- ° Turn the power to the game off and remove the control panel. This frees the main-display-glass so it can be lifted up.
- ° By putting your finger in the hole in the middle of the main-display-glass support, you can lift it up and out.
- ° Loosen the screws which secure the T.V. bezel-glass-clamps in place.

Move the clamps to the side and the bezel glass may be removed.

Remove the bezel securing screws and the bezel with four bezel-glass-clamps may be removed.

- ° To reinstall the T.V. bezel assembly and the main-display-glass, reverse this procedure.

VOLUME CONTROL POT

The volume control pot is located on the games Logic P.C. Board in the back of the game cabinet. For adjustment, it may be reached through the games rear access door.

To make the sounds louder, turn the pot clockwise as you face it.

To make the sounds less loud, turn the pot counterclockwise as you face it.

CAUTION

- ° Be sure to check the PC Board for any foreign particles i.e. dust, etc.. Foreign particles on the PC Board are one of the main causes of the PC Board malfunctions.
- ° When in doubt as to the cause of any particular problem, **ALWAYS** take the PC Board to your distributor for repair. DO NOT attempt to repair the PC Board yourself by using a volt-ohm meter or other testing equipment.
- ° When transporting the PC Board, be sure to pack the board carefully with air caps, sponge or other packing materials.

PC BOARD

- ° Option Switches:

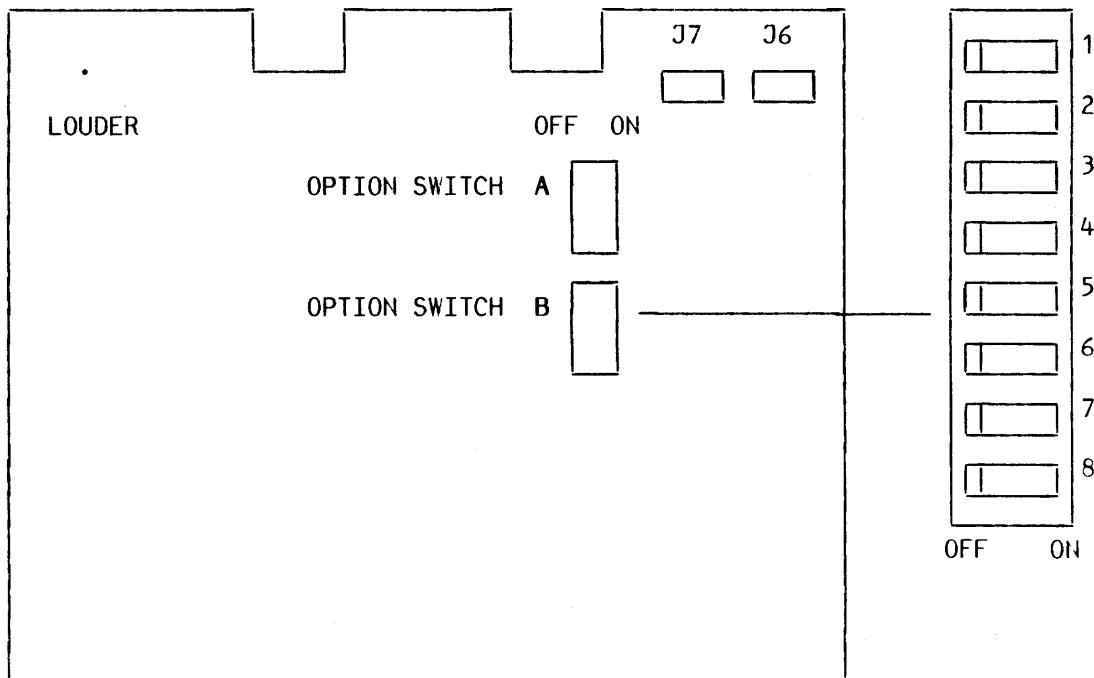
The game fee, bonus points, etc. are operator-adjustable. See the Option Switch Settings Table.

To perform the Self-Test, use the test switch located on the bracket just inside your games coin door.

- ° Volume:

Adjust the game volume as desired. DO NOT place any unnecessary pressure on the volume control knob.

J8



SELF-TEST

The Self-Test mode is a special mode for checking game switches and computer functions. It is the easiest and best way to check for proper operation of the entire game.

You may begin a Self-Test at any time after the power to the game is on by sliding the Self-Test switch to the "ON" position. Now that the game is in the Self-Test mode, it will act as follows:

- ° The Self Test will take about five (5) seconds to perform. The following check list will appear on the screen.

RAM OK	_____	A.
ROM OK	_____	B.
I/O OK	_____	C.
1ST 1 COIN 1 CREDIT	_____ (COIN 1)	D.*
2ND 1 COIN 1 CREDIT	_____ (COIN 2)	D.*
MYSHIP 3	_____	E.*
RANK 0	_____	F.
UPRIGHT	_____	G.
SOUND 00	_____	H.
1ST BONUS 50000 PTS	_____	I.*
2ND BONUS 150000 PTS	_____	I.*
EVERY BONUS 150000 PTS	_____	I.*

- A. RAM Test: If "OK" appears, RAM is normal.
- B. ROM Test: If "OK" appears, ROM is normal.
- C. I/O Test: If "OK" appears, I/O is normal.
- D. Game Fee Indicator: If 1 coin/1 game appears, the game fee is normal.
- E. Number of Fighters: If "3" appears, the number of Fighters is normal.
- F. Rank: If "0" appears, rank is normal.
- G. Table Specification: If "TABLE" appears for the Cocktail Table model and for the Upright Model, "UPRIGHT" appears, model specification is normal.
- H. Sound Test: A sound should appear when the control lever, firing button and the start button is pushed.
- I. Bonus Points: This game has been set for the first 50,000 points, then 150,000 points and for every 150,000 points thereafter.

* By using the OPTION SWITCH; "D", "E", and "I" are operator-adjustable.

When finished with the Self-Test mode, slide the Self-Test switch back to the "OFF" position and normal game functions will now return to the monitor screen.

CROSS HATCH PATTERN

Turn "ON" the Self-Test switch, push the Service button, and a cross hatch pattern will appear. Push the button one more time and the Self-Test mode will appear. Use this pattern when making adjustments to the monitor.

ADJUSTING GAME FEE, BONUS POINTS, ETC.

This is accomplished by using the various switches located on the games Logic P.C. Board. See the OPTION SWITCH SETTINGS tables and switch location information in this instruction sheet.

Turn the power switch "OFF" and then proceed to set the Option Switches.

After setting the option switches, again perform the Self-Test.

The settings of these switches are only read by the game on "POWER-UP".

G A P L U S

O P T I O N S W I T C H S E T T I N G S - D I P S W I T C H "A"

////////////////////////////// VARIOUS GAME PLAY OPTIONS //////////////////////////////

NUMBER OF FIGHTERS GAME BEGINS WITH	<u>SW#1</u> <u>SW#2</u> <u>SW#3</u> <u>SW#4</u> <u>SW#5</u> <u>SW#6</u> <u>SW#7</u> <u>SW#8</u>
* 3 FIGHTERS	OFF OFF NOT
2 FIGHTERS	OFF ON USED
4 FIGHTERS	ON OFF OFF
5 FIGHTERS	ON ON OFF
COIN #1 - NUMBER OF COINS PER CREDIT	<u>SW#1</u> <u>SW#2</u> <u>SW#3</u> <u>SW#4</u> <u>SW#5</u> <u>SW#6</u> <u>SW#7</u> <u>SW#8</u>
* 1 COIN 1 CREDIT	OFF OFF OFF
1 COIN 2 CREDITS	OFF ON OFF
2 COINS 1 CREDIT	ON OFF OFF
3 COINS 1 CREDIT	ON ON OFF
SOUND	<u>SW#1</u> <u>SW#2</u> <u>SW#3</u> <u>SW#4</u> <u>SW#5</u> <u>SW#6</u> <u>SW#7</u> <u>SW#8</u>
SOUND IN ATTRACT MODE	OFF OFF
* NO SOUND IN ATTRACT MODE	ON OFF
COIN #2 - NUMBER OF COINS PER CREDIT	<u>SW#1</u> <u>SW#2</u> <u>SW#3</u> <u>SW#4</u> <u>SW#5</u> <u>SW#6</u> <u>SW#7</u> <u>SW#8</u>
* 1 COIN 1 CREDIT	OFF OFF OFF
1 COIN 2 CREDITS	OFF OFF ON
2 COINS 1 CREDIT	OFF ON OFF
3 COINS 1 CREDIT	OFF ON ON
* INDICATES FACTORY RECOMMENDED SETTINGS	PART NO. M051-00A87-B007

G A P L U S

OPTION SWITCH SETTINGS - DIP SWITCH "B"

////////////////////////////// VARIOUS GAME PLAY OPTIONS ///////////////////////////////

SELF-TEST MODE	<u>SW#1</u> <u>SW#2</u> <u>SW#3</u> <u>SW#4</u> <u>SW#5</u> <u>SW#6</u> <u>SW#7</u> <u>SW#8</u>
* NORMAL TEST	OFF ON
"RANK" = DIFFICULTY LEVEL OF PLAY	<u>SW#1</u> <u>SW#2</u> <u>SW#3</u> <u>SW#4</u> <u>SW#5</u> <u>SW#6</u> <u>SW#7</u> <u>SW#8</u>
EASIEST LEVEL OF PLAY 1 PROGRESSIVELY MORE DIFFICULT LEVELS OF PLAY	OFF OFF ON OFF OFF OFF OFF ON OFF OFF ON ON ON OFF OFF ON OFF ON ON ON OFF ON ON ON
* 0 STANDARD LEVEL OF PLAY	OFF OFF OFF OFF ON OFF OFF ON ON ON OFF OFF ON OFF ON ON ON OFF ON ON ON
** ROUND ADVANCE	<u>SW#1</u> <u>SW#2</u> <u>SW#3</u> <u>SW#4</u> <u>SW#5</u> <u>SW#6</u> <u>SW#7</u> <u>SW#8</u>
* NORMAL ADVANCE	OFF ON
BONUS SHIPS AWARDED AT:	<u>SW#1</u> <u>SW#2</u> <u>SW#3</u> <u>SW#4</u> <u>SW#5</u> <u>SW#6</u> <u>SW#7</u> <u>SW#8</u>
1st @ 100,000; 2nd @ 300,000 & every 600,000 1st @ 150,000; 2nd @ 400,000 1st @ 150,000; 2nd @ 400,000 & every 900,000 1st @ 100,000; 2nd @ 300,000 & every 300,000 1st @ 50,000; 2nd @ 200,000 & every 300,000 1st @ 50,000; 2nd @ 150,000 & every 600,000 1st @ 50,000; 2nd @ 150,000 & every 300,000 * 1st @ 30,000; 2nd @ 150,000 & every 600,000	OFF OFF OFF OFF OFF ON OFF ON OFF OFF ON ON ON OFF OFF ON OFF ON ON ON OFF ON ON ON
** BY TURNING "ON" THE OPTION SWITCH WHILE "PARSEC" IS BEING INDICATED ON THE SCREEN, YOU CAN ADVANCE THROUGH THE "ROUNDS". PUSH THE ONE PLAYER CONTROL LEVER FORWARD (PLAYER NUMBER ONE UP SWITCH IS "ON") TO INDICATE THE NUMBER. THE INDICATED ROUND NUMBER WILL APPEAR ON THE MONITOR SCREEN WHEN THE OPTION SWITCH IS TURNED "OFF".	
* INDICATES FACTORY RECOMMENDED SETTINGS	PART NO. M051-00A87-B007

THIS TAG TO BE TYPESET AND REPRODUCED IN BLACK INK ON HEAVY WHITE 8" x 11" CARD STOCK

TOLERANCE = ± 1/2"

GAME PLAY

With the eight-way joystick, maneuver your fighter and fire your missiles using the firing button to shoot down "GAPLUS".

"GAPLUS" comes in different varieties. Depending upon the variety and the flight pattern, the number of points received will vary. Also, when "GAPLUS" is in formation, the number of points received will vary. The following indicates the number of points each "GAPLUS" is worth at different times.

	When in Formation	When Attacking
(a) Queen Gaplus	100	400
(b) Ad Gaplus	100	400
(c) Cap Gaplus	100	300
(d) Lute Gaplus	100	200
(e) Zako Gaplus	100	100

Destroy all "GAPLUSES" and the round will clear. The "QUEEN GAPLUS" possesses the BLASTER HEAD. When the QUEEN GAPLUS is shot down, the Blaster Head will connect onto the player's fighter enabling it to power up!!!

° PHALANX ATTACK:

The tractor beam will swallow up the enemy and reform them to the good side as your fighter's ally. Result...multi-missle attacking capability.

° HYPER ATTACK:

Moving at lightening speed, the player's fighter will fire off missiles in the multiples of two.

° CYCLONE ATTACK:

The cyclone beam will draw in the enemy and smash them apart!!! Points received will double each time, 200, 400,... 6,400!

When throwing off his beam, the player's fighter can only move right and left. Also, when the Blaster Head is mounted onto the fighter's plane, he will become invincible.

When the Blaster Head is connected onto the Queen Gaplus and it is hit once, the Queen will change colors. You must hit it one more time to destroy the Queen.

Challenging Stage:

- ° The Challenging Stages are in Rounds 3, 8, 13, 18, During this stage, the enemy will continually fly about the screen. At the top of the screen, Gaplus will form a letter or a bar across the screen. When all the Gapluses leave the screen, the following bonus points are given.
- ° The number of Gapluses to form a letter x 100
- ° The number of Gapluses to form a bar x 200

Also, if the letters are completed, the following

- ° "B O N U S" --- Bonus points of 10,000
- ° "G A P L U S" --- Bonus points of 0 - 5,000
(Push the firing button to stop the rotating number located under your total score and then your grand total will appear.)
- ° "D O U B L E" --- Bonus points will double.
- ° "T R I P L E" --- Bonus points will triple.

Star Flash:

- ° A flash will appear on the screen and at the same time a star will appear attacking the player's fighter. When the star approaches the fighter, it will split up into four parts. The fighter must fire his missiles at all four parts.

"Bean Curd" (Tofu) Attack:

- ° When Gaplus peels off from the formation and is hit, his ghost (looking like a Bean Curd) will fall from the sky. The fighter must shoot it down.

If the player's fighter is touched by: Gaplus, missiles, star flash or the bean curd; it is a miss. The Blaster Head will disintegrate when a miss is made.

During the Phalanx Attack when Gaplus has become the fighter's ally, if Gaplus is touched by a missle or bean curd it is not a miss.

As bonus points are added up, a bonus ship will be awarded. The Queen Gaplus will bring down parts of the fighter's plane (three in all). When all three are put together, one bonus ship is added on.

The Best players to date can enter their initials on the screen by using the joystick to select a letter and then pushing the FIRE button.

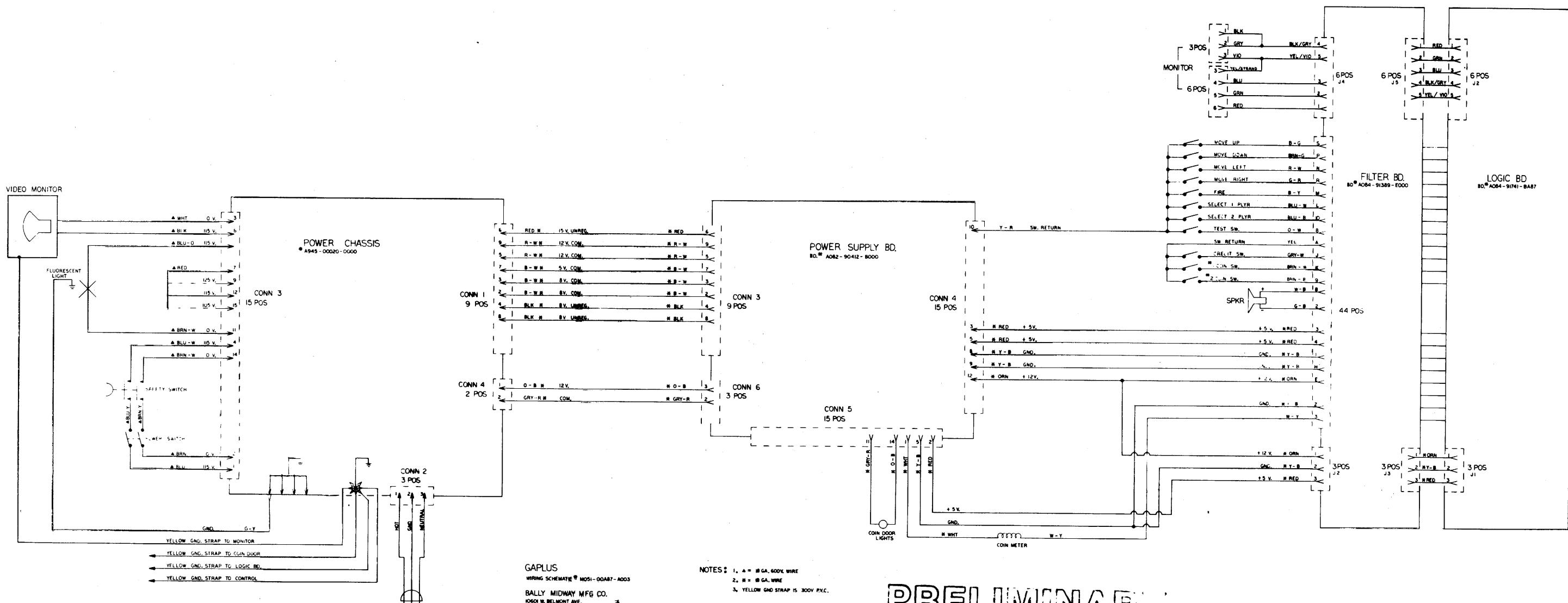
BALLY/MIDWAY'S GAPLUS
U.R. #0A87
PROGRAMED PART NUMBERS

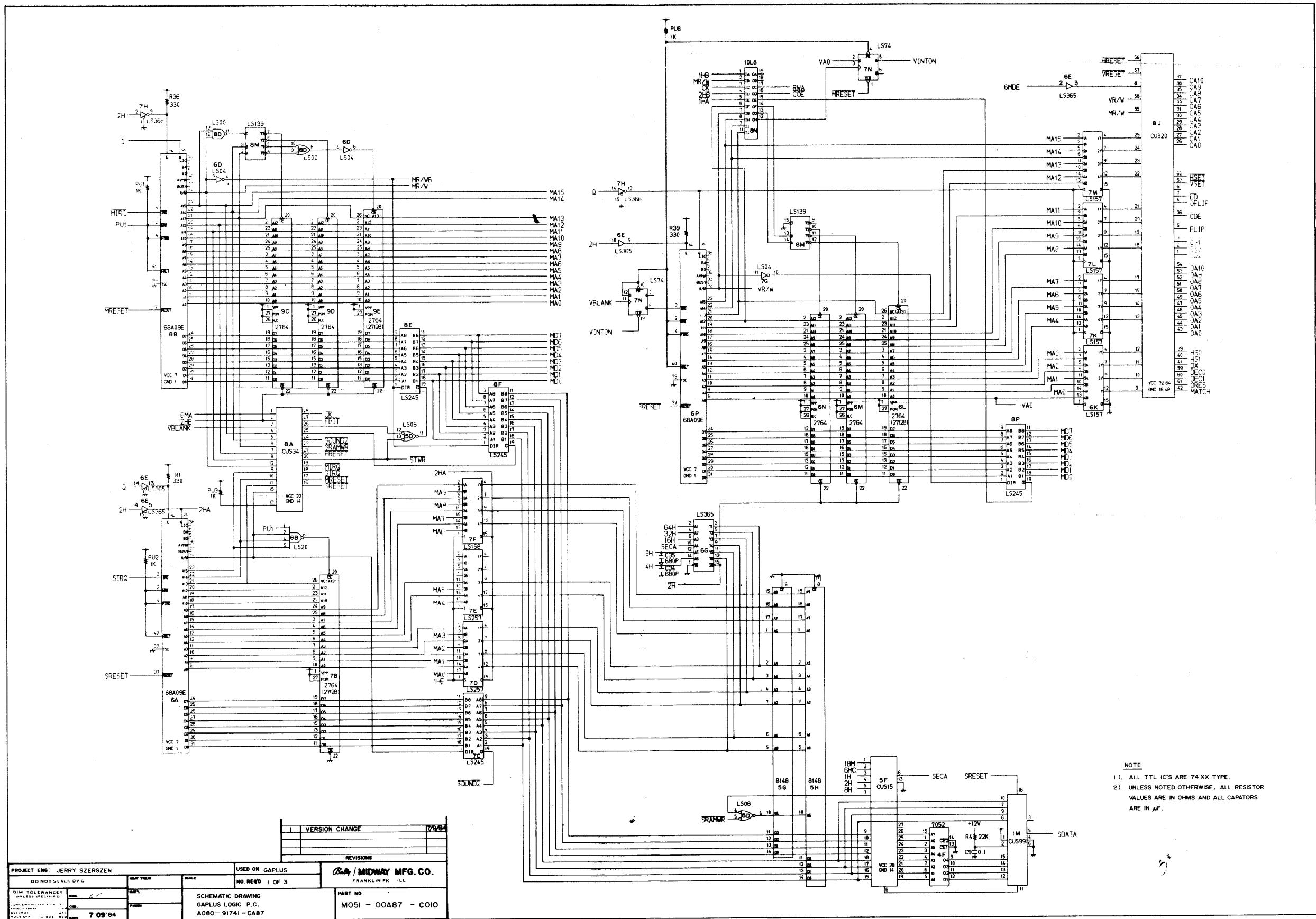
UNPROGRAMED LOGIC BD. A082-91741-BA87
PROGRAMED GAPLUS LOGIC BD. A084-91741-BA87

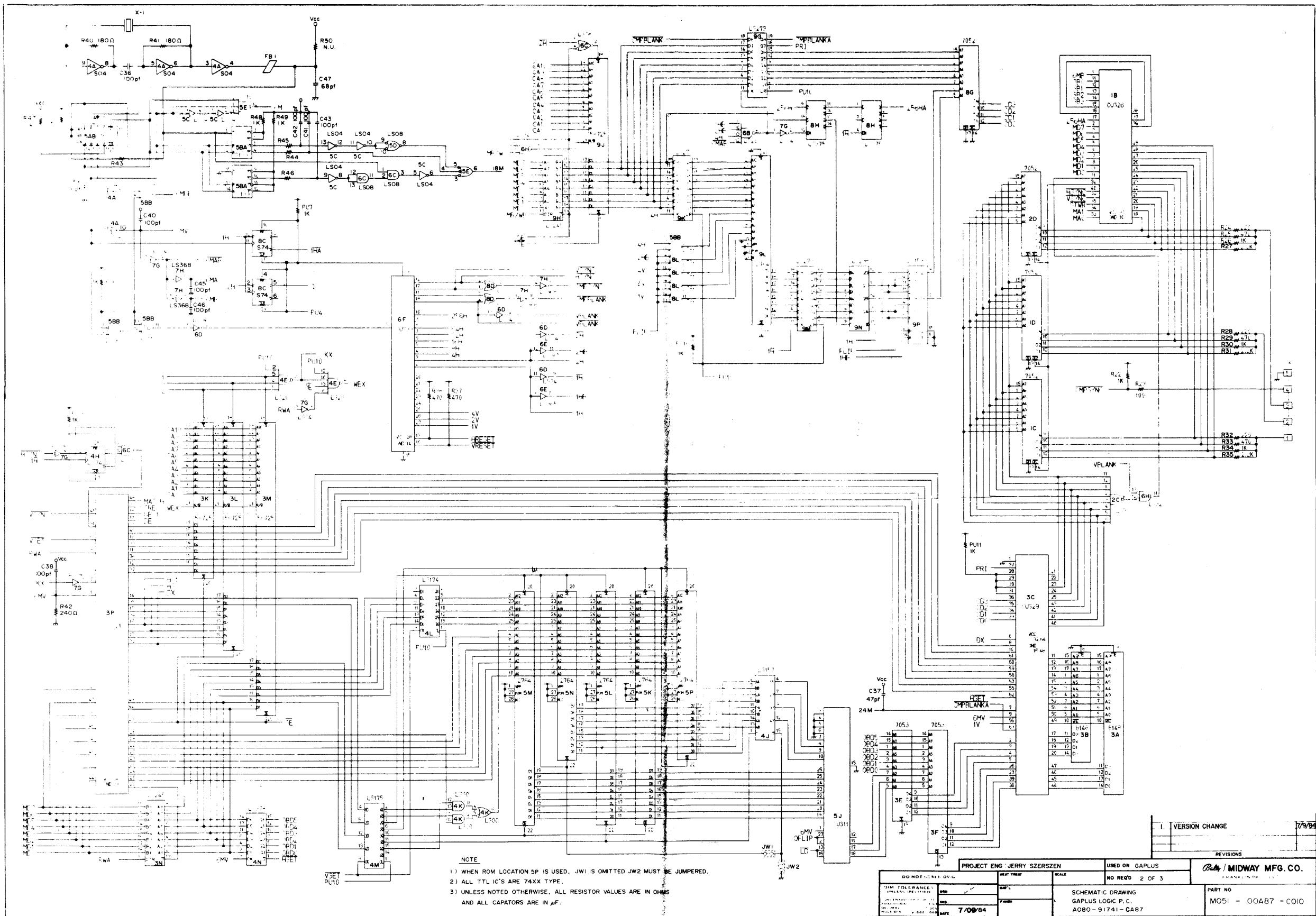
POS.	MIDWAY PART NUMBER
8N	0A87-00803-0003
3E	0A87-00803-0004
3F	0A87-00803-0005
1D	0A87-00803-0006
2D	0A87-00803-0007
1C	0A87-00803-0008
4F	0A87-00803-0009
8G	0A87-00803-0010
7B0	0A87-00803-0011
9C1	0A87-00803-0012
9D2	0A87-00803-0013
9E3	0A87-00803-0014
9L4	0A87-00803-0015
6N5	0A87-00803-0016
6M6	0A87-00803-0017
6L	0A87-00803-0018
5N	0A87-00803-0019
5L	0A87-00803-0020
5M	0A87-00803-0021
5K	0A87-00803-0022

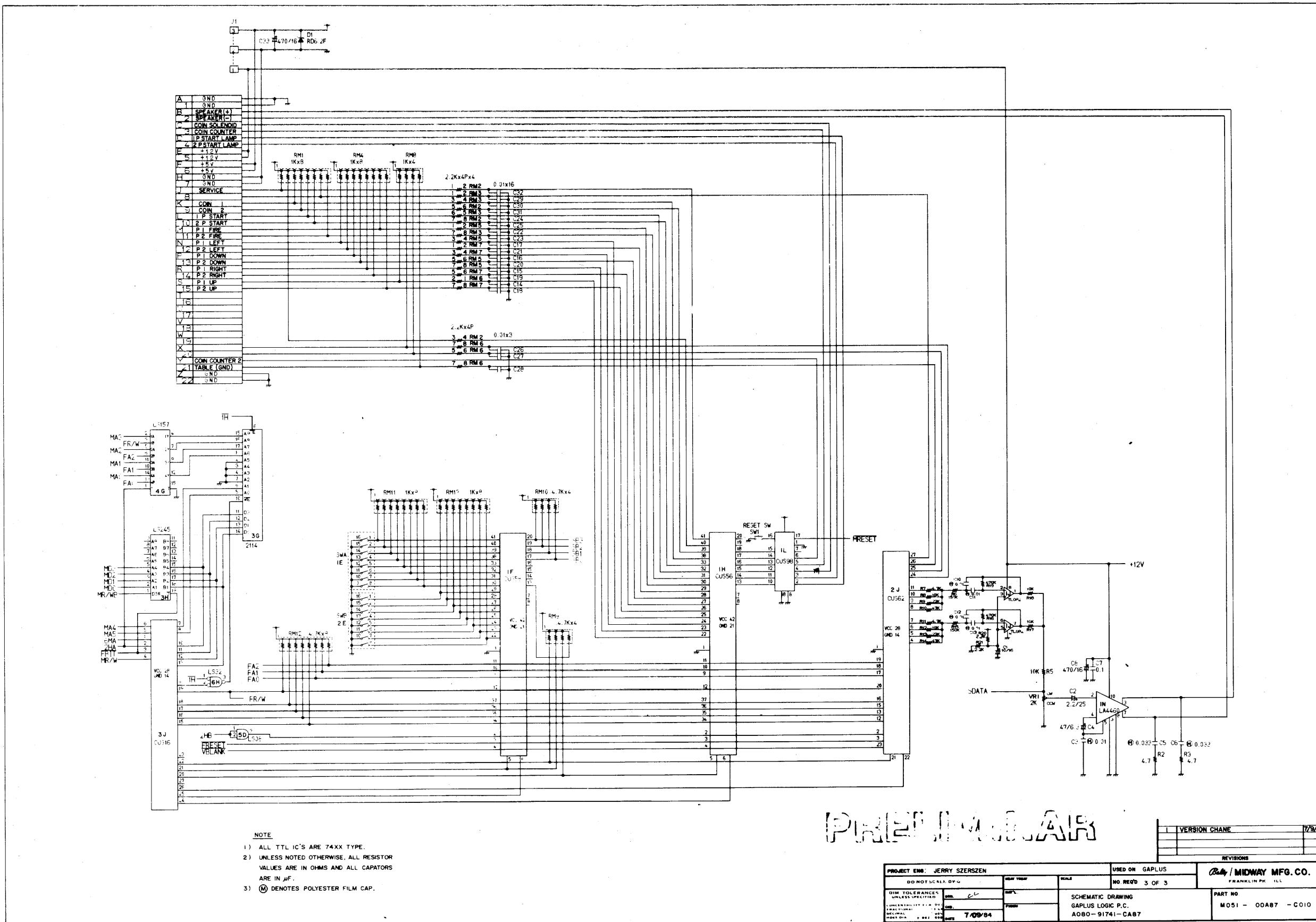
PRELIMINARY

6/29/84	RELEASE FOR PRODUCTION	







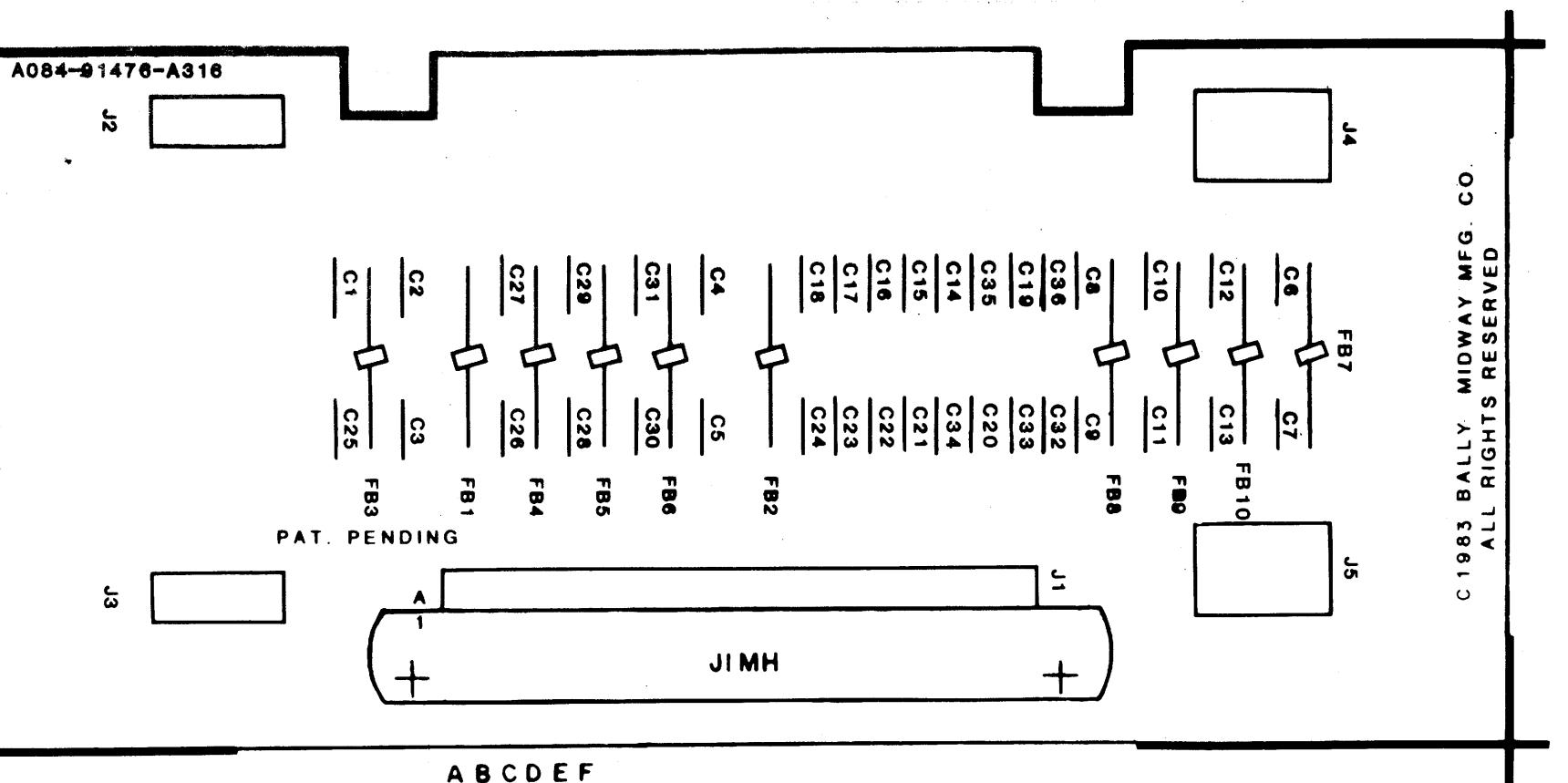


DESIGNATION NO. DESCRIPTION

C1 - C5	390pf 50V. AX. CER.
C6, C7	470pf " " "
C8 - C13	100pf " " "
C14-C24	.01 μ f " " "
C25	390pf " " "
C26-C29	.01 μ f " " "
C30, C31	390pf " " "
C32-C36	.01 μ f " " "
FBI-FB10	FERRITE BEAD
J1	P.C. EDGE CONN.
J2, J3	3 PIN HEADER
J4, J5	6 PIN HEADER
JIMH	(2) P.C. EDGE CONN. KEY (2) 6-32X10 SLOT PAN SCREW (2) WSH. 6 145-.250-.032 (1) BRKT.-CONN. FIN. (1) INSULATED GND. STRAP (1) 8-32X5 SLOT PAN SCREW (1) 8-32 NUT HEX

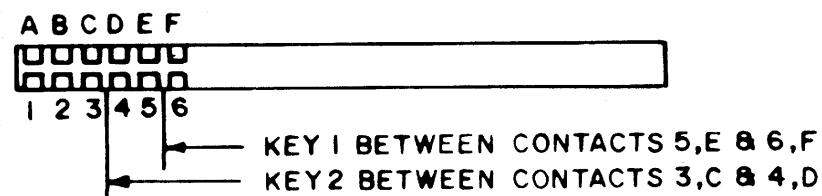
A080-91476-A316 F.C.C. FILTER BD. SUPER PAC-MAN

F.C.C. FILTER BD. SUPER PAC-MAN



1983 BALLY MIDWAY MFG. CO.

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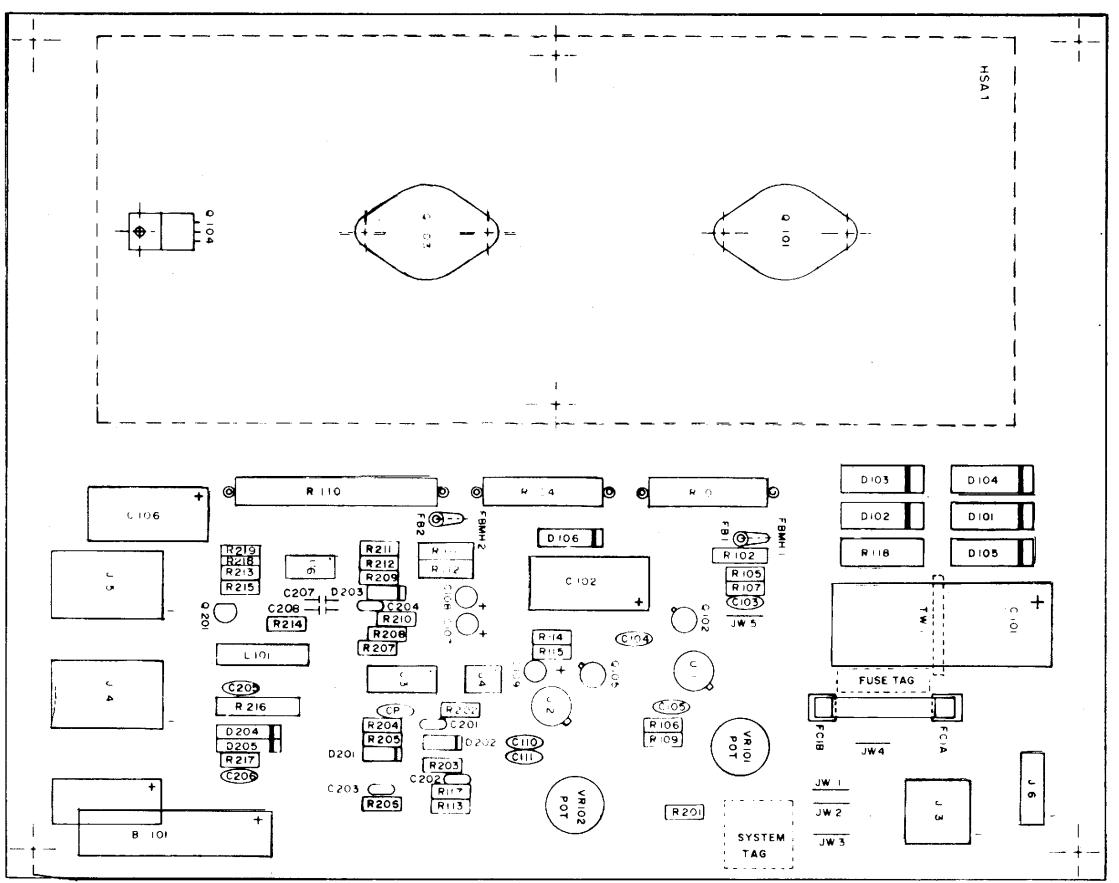
DESCRIPTION	Q'TY	DESIGNATION NO.	PART NO.
100pf 50V. AX. CER.	6	C8-C13	0789-00800-1800
390pf " " "	8	CI - C5, C25, C30, C31	0316-00800-0002
470pf " " "	2	C6, C7	0550-00800-0200
.01 μ f " " "	20	C14-C24, C26-C29, C32-C36	0550-00800-0300
FERRITE BEAD	10	FBI-FB10	0316-00804-0002
P.C. EDGE CONN	1	J1	0017-00021-0418
3 PIN HEADER	2	J2, J3	0017-00021-0443
6 PIN HEADER	2	J4, J5	0017-00021-0424
P.C. EDGE CONN. KEY	2	JIMH	0017-00021-0396
6-32X10 SLOT PAN SCREW	2	"	0017-00101-0574

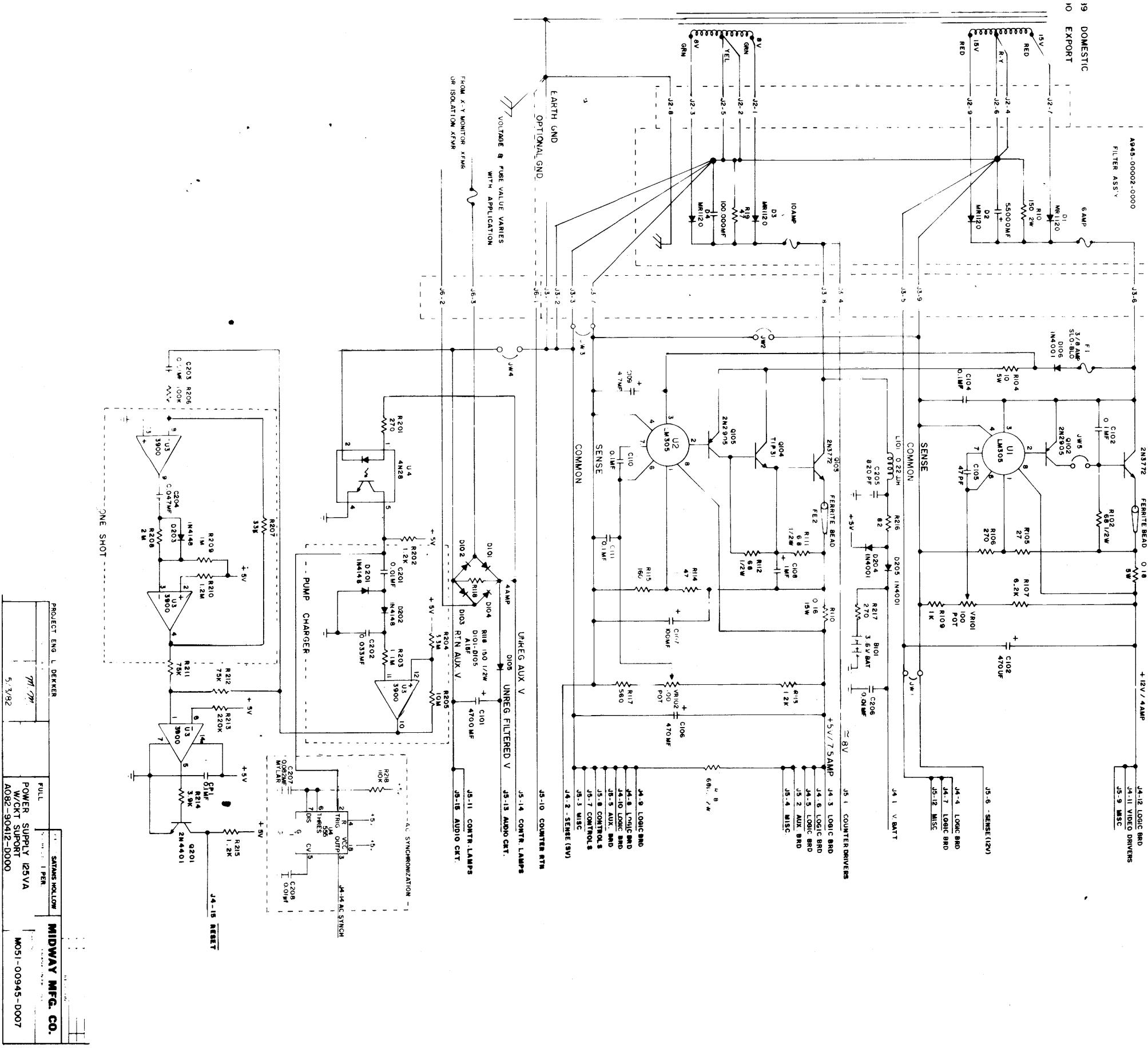
DESCRIPTION	Q'TY	DESIGNATION NO.	PART NO.
WSH. 6 145-.250-.032	2	JIMH	0017-00104-0002
BRKT.-CONN. FIN.	1	"	0866-00118-00XF
INSULATED GND. STRAP	1	-	3000-17143-0700
8-32X5 SLOT PAN SCREW	1	-	0017-00101-0595
8-32 NUT HEX	1	-	0017-00103-0008
F.C.C. FILTER BD. SUPER PAC-MAN	1	A080-91476-A316	A080-91476-A316

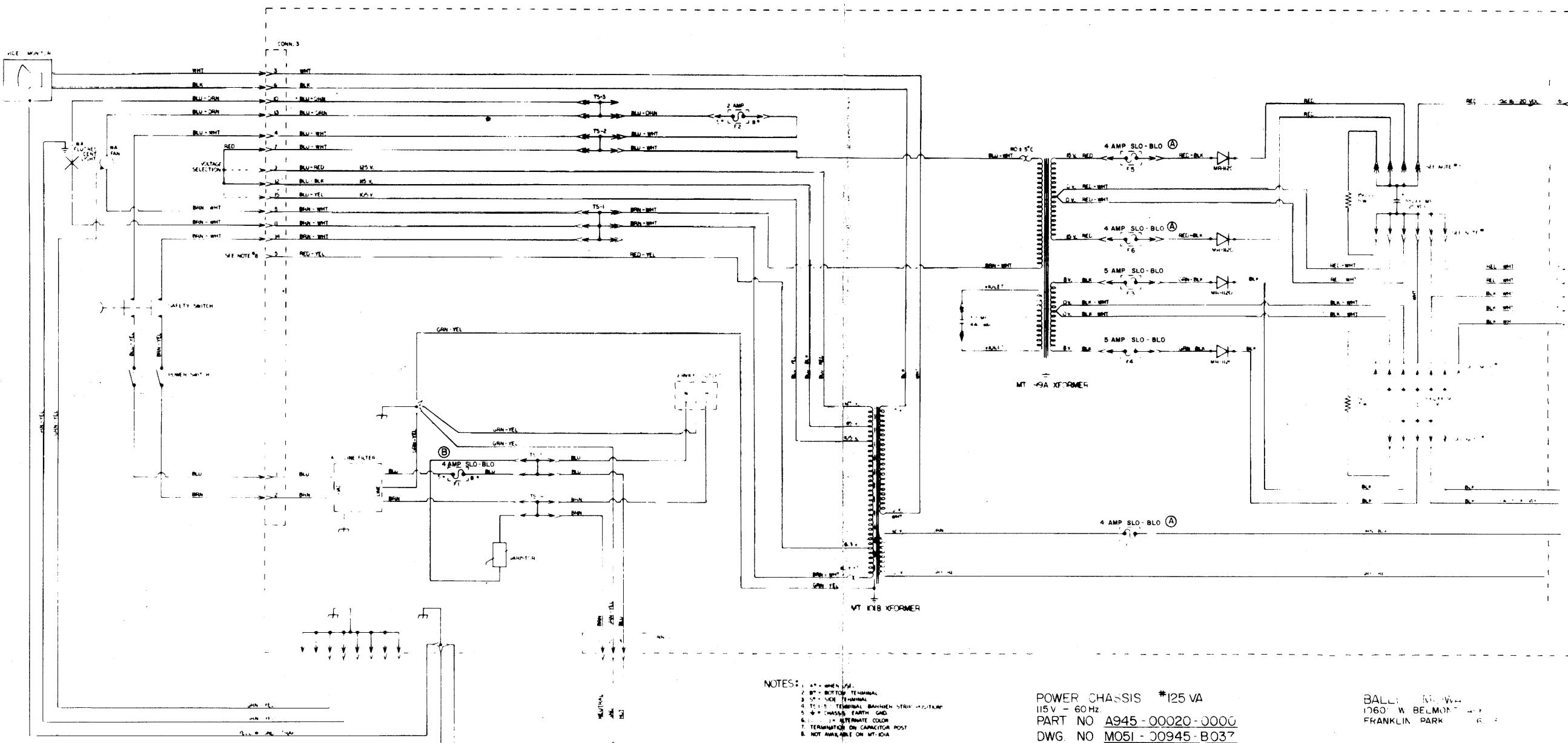
REVISIONS

PROJECT ENG: L. DEKKER		SCALE: FULL		LINE: SUPER PAC-MAN		BALLY / MIDWAY MFG. CO.	
DO NOT SCALE DOWN		HEAT TREAT	SCALE	N R. 1 PER		FRANKLIN PK	
DIM. TOLERANCE UNLESS RECEIVED		DRW. RLW	SCALE	ASSEMBLY DRAWING		PART NO	
UNLESS RECEIVED		CKD.	FINISH	F.C.C. FILTER BD. SUPER PAC-MAN		M051 - 00316 - A026	
		DATE 02/08/83		A084 - 91476 - 316			

DESIGNATION *	DESCRIPTION	DESIGNATION *	DESCRIPTION	DESIGNATION *	DESCRIPTION	Q'ty	DESIGNATION *	PART *	DESCRIPTION	Q'ty	DESIGNATION *	PART *	
C101	4700uF AX. ELECT	R117	560ohm 1/4W 5%	U1	LM305 REG.	1	C105	0945-00811-0100	LM305 REG.	2	U1,2	0945-00813-0100	
C102	4700uF AX. ELECT	R118	150ohm 2W	U2	LM305 REG	1	C205	0945-00816-0400	555	1	U6	0929-00810-4500	
C103	.1uF AX. CER.	R201	270ohm 1/4W 5%	U3	LM3900	.01uF AX. CER	2	C206,208	0945-00816-0100	LM3900	1	U3	0945-00813-0200
C104	.1uF AX. CER.	R202	1.2K 1/4W 5%	U4	4N28	.01uF MYLAR	2	C201,203	0945-00816-0200	4N28	1	U4	0945-00813-0300
C105	470uF AX. ELECT.	R203	1.1M 1/4W 5%	U6	555	.033uF MYLAR	1	C202	0945-00816-0500				
C106	100uF RD. TANT.	R204	3.3M 1/4W 5%			.047uF MYLAR	1	C204	0945-00816-0300				
C107	1uF RD. TANT.	R205	10M 1/4W 5%			.082uF AX.CER	1	C207	0945-00816-1900	A15F RECTIFIER	5	D101 '95	0945-00804-0200
C108	4.7uF RD. TANT	R206	100K 1/4W 5%	L101	.22uH INDUCTOR		.1uF AX. CER.	5	C103,104,111	0945-00811-0200			
C109	.1uF AX. CER.	R207	33K 1/4W 5%			1uF RAD. TANT	1	C108	0945-00811-0300	1N4001	3	D106,204,205	0945-00804 0300
C110	.1uF AX. CER.	R208	2M 1/4W 5%			4.7uF RAD. TANT	1	C109	0945-00811-0400	1N4148	3	D201-203	0945 00804 0500
C111	.01uF MYLAR	R209	1M 1/4W 5%	B101	BATTERY 3.6VDC 60DEG-C		100uF RAD. TANT	1	C107	0945-00811-0500			
C201	.033uF MYLAR	R210	1.2M 1/4W 5%			470uF AX. ELECT.	2	C102,106	0945-00816-0600	2N2905	2	Q102,105	0945-00808 0300
C202	.01uF MYLAR	R211	75K 1/4W 5%			4700uF AX. ELECT.	1	C101	0945-00811-0700	2N4401	1	Q201	0945-00804-0400
C203	.047uF MYLAR	R212	75K 1/4W 5%	F1	3.8A S BLO FUSE								
C204	.820uF AX. CER.	R213	220K 1/4W 5%										
C205	.01uF AX. CER.	R214	3.9K 1/4W 5%										
C206	.020uF MYLAR	R215	1.2K 1/4W 5%										
C207		R216	82ohm 1W 10%	FC1A,1B	FUSE CLIP								
		R217	270ohm 1/4W 5%										
		R218	110K 1/4W 5%										
		R219	68ohm 1/2W 5%	FE1,2	FERRITE BEAD								
				VR101,102	100ohm POT		TW1	TIE WRAP					
CP1	.1uF AX. CER.												
R101	18ohm 5W W/RES. SPACER	D101	A15F	J3	3PIN P.C. MOUNT CONN(MALE)		R110	0945-00815-0100	BATTERY 3.6VDC 60DEG C	1	B101	0017-00003-0377	
R102	68ohm 1/2W 5%	D102	A15F	J4	15PIN P.C. MOUNT CONN(FEMALE)		R101	0945-00815-0200	FUSE 3/8A S BLO	1	F1	0945-00808-0400	
R104	10ohm 5W W/RES. SPACER	D103	A15F	J5	15PIN P.C. MOUNT CONN(MALE)		R111	0062-047D3-1XXX	FUSE CLIP	2	FC1A,1B	0017-00003-0214	
R105	27ohm 1/4W 5%	D104	A15F	J6	3PIN P.C. MOUNT CONN(MALE)		R104	0945-00812-0100	TIE WRAP	1	TW1	0945-00814-0300	
R106	270ohm 1/4W 5%	D105	A15F	LB1	FUSE TAG		R105	0062-06883-1XXX	FERRITE BEAD	2	FB1,2	0017-00009-0225	
R107	6.2K 1/4W 5%	D106	1N4001	LB2	SYSTEM TAG		R114	0062-086B3-1XXX	FERRITE MOUNTING HDW	1	FBM1,2	0017-00033-0135	
		D201	1N4148	HSA1	HEAT SINK ASS'Y 1		R102,112,219	0062-098D3-1XXX					
		D202	1N4148				R118	0945-00812-0200	22uH INDUCTOR	1	L101	0945-00814-0200	
		D203	1N4148				R115	0062-124B3-1XXX	FUSE TAG	1		M051-00945-A004	
		D204	1N4001	MHHSA1	MOUNTING HARD WARE(HEAT SINK)		R106,201,217	0062-138B3-1XXX	SYSTEM TAG	1		M051-00945-A009	
		D205	1N4001				R117	0062-162B3-1XXX	P.C.B.	1		A080-90412-U000	
							R113,202,215	0062-183B3-1XXX					
							R124	0062-207B3-1XXX					
							R107	0062-217B3-1XXX					
							R207	0062-251B3-1XXX					
							R211,212	0062-269B3-1XXX	HEAT SINK ASS'Y	1	HSA1	A945-00008-0000	
							R206	0062-275B3-1XXX	(SEE HS ASS'Y DRAWING "XX NOTE")				
							R218	0062-277B3-1XXX	4-40X10 SLT RND	2	MH HSA1A,2A	0017-00101-00727	
							R213	0062-291B3-1XXX	4-40 HEX NUT	2	MH HSA1E,2E	0017-00103-0002	
							R209	0062-323B3-1XXX	WSH 4-120-.250-018	4	MH HSA1B,1D	0017-00104-0071	
							R203	0062-325B3-1XXX	MH HSA2B,2D				
							R210	0062-327B3-1XXX					
							R208	0062-337B3-1XXX	3PIN P.C. MOUNT CONN. (MALE)	1	J6	0017-00021-0440	
							R204	0062-347B3-1XXX	9PIN P.C. MOUNT CONN(MALE)	1	J3	0017-00021-0425	
							R205	0062-371B3-1XXX	15PIN P.C. MOUNT CONN(FEMALE)	1	J4	0017-00021-044	
											J5	0017-00021-0440	
R109	1K 1/4W 5%												
R110	16ohm 15W W/RES. SPACER												
R111	6.8ohm 1/2W 5%												
R112	68ohm 1/2W 5%												
R113	1.2K 1/4W 5%	Q102	2N2905	JW1-5	JUMPER WIRE								
R114	47ohm 1/4W 5%	Q105	2N2905										
R115	160ohm 1/4W 5%	Q201	2N4401										







REV. (A)	INCREASED FUSE VALUES WAS 3AMP - NOW 4AMP ADDED PART NO. (UL)	MB 3-15-8
REV. (B)	INCREASED FUSE VALUE WAS 3AMP - NOW 4AMP	MB 3-24-8

NOTES:

1. \oplus = TOP TERMINAL
2. \ominus = BOTTOM TERMINAL
3. \ominus = SIDE TERMINAL
4. TC-15 = TERMINAL BAHNHEN STRIP
5. \downarrow = CHASSIS EARTH GND
6. () = ALTERNATE COLOR
7. TERMINATION ON CAPACITOR POST
8. NOT AVAILABLE ON MY-101A

POWER CHASSIS *125 VA
115 V - 60 Hz.
PART NO A945 - 00020 - 0000
DWG. NO M051 - 00945 - B037

BALL, MARY
1260 W BELMONT AVE
FRANKLIN PARK 6-3